

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO. LTD., AND
SAMSUNG ELECTRONICS AMERICA, INC.,

Petitioners,

V.

HANNIBAL IP LLC,

Patent Owner.

Case IPR2025-01189
Patent No. 11,368,911 B2

PATENT OWNER'S RESPONSE

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Patent Owner's Exhibit List

Exhibit	Description
2008	Merriam-Webster's definition of "response"
2009	Cambridge English Dictionary's definition of "response"
2010	Dictionary.com's definition of "response"
2011	Merriam-Webster's definition of definition of "response" (2019)
2012	Merriam-Webster's definition of "response" (2020)
2013	Declaration in Support of Jeffrey M. Saltman's <i>Pro Hac Vice</i> Motion
2014	Declaration in Support of Timothy J.H. Craddock's <i>Pro Hac Vice</i> Motion
2015	Kakaes Deposition Transcript (March 9, 2026)
2016	Annotated Version of Ex. 1005
2017	Rodermund Deposition Transcript (March 5, 2026)
2018	Declaration of Robert Akl, D.Sc. in Support of Patent Owner's Response
2019	Curriculum Vitae of Robert Akl, D.Sc.
2020	3GPP Terms of Use

I. INTRODUCTION

Hannibal IP LLC (“Hannibal” or “Patent Owner”) respectfully requests that the Board reject Samsung Electronics Co. Ltd. and Samsung Electronics America, Inc. (“Samsung” or “Petitioners”) Grounds 1-5 and find that the Challenged Claims are patentable.

At issue is whether the challenged independent claims 1 and 10 (the “Independent Claims”) of U.S. Patent No. 11,368,911 (the “’911 Patent”), and dependent claims 2-9 and 11-18 (“Dependent Claims”) (collectively, the “Challenged Claims”) are invalid under Grounds 1-5 brought by Petitioners. The Board should find that Petitioners have failed to meet their burden of proof to show invalidity of the Challenged Claims for the reasons set forth herein.

Petitioners only challenge the Independent Claims in Grounds 1 and 2, and Grounds 1 and 2 are based on the single reference *Nimbalker*. Ground 1 asserts that *Nimbalker* anticipates the Independent Claims while Ground 2 asserts that *Nimbalker* renders the Independent Claims obvious. Of note, Petitioners only make single-reference obviousness arguments relying on *Nimbalker* with respect to Claim 1 limitation [1c] and Claim 10 limitation [10d]. Petitioners’ Grounds 3-5 do not address the Independent Claims. As such, a finding in Patent Owner’s favor that *Nimbalker* does not anticipate or render obvious the Independent Claims is dispositive of Petitioner’s challenge to the ’911 Patent. And, as demonstrated

below, *Nimbalker* fails to anticipate or render obvious Claims 1 and 10; therefore, the Petition should be denied in its entirety.

Further, as explained in Section VI.E below, Petitioners' Grounds 3 and 4 rely on *Nimbalker* combined with art that does not constitute prior art. For this additional reason, Grounds 3 and 4 should be denied.

II. THE '911 PATENT

The '911 Patent, titled "Method of Physical Downlink Control Channel Monitoring and Related Device" issued on June 6, 2022, and contains two independent claims, Claims 1 and 10. Claim 1 is a method claim directed to "A method for a user equipment (UE) monitoring a physical downlink control channel (PDCCH)." Ex. 1001, '911 Patent at 13:40-43. Claim 10 is an apparatus claim that closely corresponds to Claim 1. The application for the '911 Patent was filed on Apr. 27, 2020, and claims priority to Provisional Application No. 62/840,451 filed on Apr. 30, 2019. Ex. 1001, '911 Patent at 1:8-14. The priority date for the '911 Patent is April 30, 2019, a fact not disputed by Petitioner. See Petition, p. 11, 84; Ex. 1003, Kakaes Decl. at ¶¶ 6, 51.

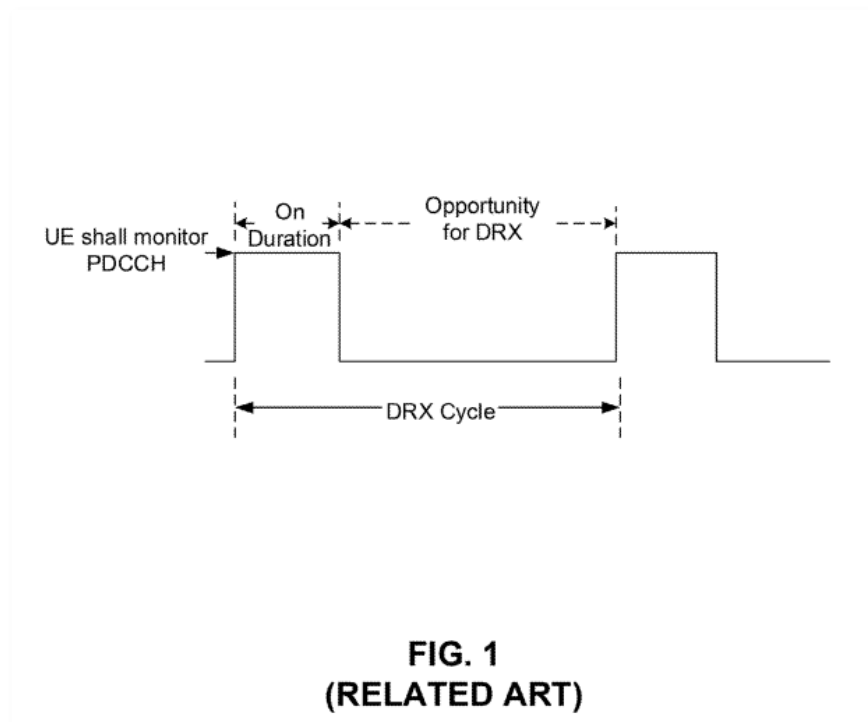
As described in the background section of the '911 Patent, "UE battery life is an important aspect of the user's experience, which will influence the adoption of 5G handsets and/or services." Ex. 1001, '911 Patent at 1:26-28. The '911 Patent

is directed at power saving operations using power saving signals and

Discontinuous Reception (“DRX”). *See* Ex. 1001, ’911 Patent at Abstract.

In modern wireless communications, data is transmitted as blocks of certain time domain and frequency. Ex. 2018, Akl Decl. at ¶ 43. For efficiency, instead of monitoring all possible time domains and frequencies for data, the UE is sent a Physical Downlink Control Channel (PDCCH) message that tells the UE the time and frequency to send or receive data. *Id.* Therefore, the UE only needs to monitor for a PDCCH message. *Id.* The PDCCH message, however, is not constantly sent to the UE. Therefore, “DRX operation [was] introduced as conventional UE power saving.” Ex. 1001, ’911 Patent at 2:23-24. DRX operation saves power by scheduling on and off periods for PDCCH monitoring such that “the UE does not have to continuously monitor PDCCH.” Ex. 1001, ’911 Patent at 2:23-59. More specifically, DRX operation creates a cycle of on periods and off periods.

Ex. 2018, Akl Decl. at ¶ 49. During DRX on duration, UE wakes up and monitors a search space for the PDCCH. Ex. 2018, Akl Decl. at ¶ 49. Unless the UE receives a PDCCH during DRX on duration, the UE goes back to sleep and skips monitoring for the rest of the DRX cycle. Ex. 2018, Akl Decl. at ¶ 49.



Ex. 1001, '911 Patent at Fig. 1.

This prior art DRX operation suffers from drawbacks. For example, the prior DRX mechanism may keep the UE awake even without PDCCH scheduling or may still periodically trigger the UE to wake up causing “unnecessary power consumption.” Ex. 1001, '911 Patent at 2:60-3:1. To address the issue of unnecessary power consumption the prior art DRX mechanism added “a power saving signal, namely wake-up signaling (WUS).” Ex. 1001, '911 Patent at 3:2-6.

Instead of periodically waking up for a PDCCH monitoring, the UE periodically monitors for a WUS. The WUS, referred to as the “power saving signal” in the '911 Patent, is a short signal sent before the PDCCH monitoring occasion which informs the UE whether it should wake up for PDCCH monitoring.

See Ex. 1001, '911 Patent at Abstract, 3:9-12. The WUS allows the UE to sleep longer and wake up only when necessary, minimizing energy consumption. But WUS is not without issues. For example, the WUS signal may overlap with the PDCCH, creating situations in which “the UE may need to monitor both the PDCCH for scheduling as well as the WUS occasion simultaneously, which increases the power consumption of the UE.” Ex. 1001, '911 Patent at 3:31-46.

The inventions of Independent Claims 1 and 10 provide a novel and non-obvious method and equipment for managing DRX operation and WUS for PDCCH monitoring. The inventions improve the use of DRX and WUS by providing for configuring a first search space for regular PDCCH and a second separate search space for the WUS. Ex. 1001, '911 Patent at Cls. 1, 10 (“first search space” and “second search space”). The inventions additionally provide for an improved mechanism for starting a DRX on-duration timer when no WUS is received. Ex. 1001, '911 Patent at 13:55-57; 14:65-67. Specifically, the Independent Claims require “in response to not receiving the power saving signal while monitoring the second search space, [starting/start] a DRX on-duration timer of the DRX functionality.” Ex. 1001, '911 Patent at 13:55-57; 14:65-67. It was the addition of this limitation that led the Examiner to allow the Claims. Ex. 1002, '911 Patent Prosecution History at pp. 148-152. The Examiner expressly found no “prior art which solely or in combination with another reference teaches the

limitation of: ... [starting/start] a DRX on-duration timer of the DRX functionality in response to not receiving the power saving signal in the second search space.” See Ex. 1002, ’911 Patent Prosecution History at p. 111. This limitation is completely missing from the art relied upon by the Petitioner. Nor is this limitation obvious.

III. CLAIM CONSTRUCTION

Petitioners have asserted that “no terms need construction to resolve controversy in this forum.” Petition, p. 18. But the Petition’s analysis of the claims contradicts this statement. As discussed below, *Nimbalker* does not disclose the limitation “in response to not receiving the power saving signal while monitoring the second search space, [starting/start] a DRX on-duration timer of the DRX functionality,” among other limitations.

Dr. Kakaes’ Declaration implicitly construes the phrase “in response to” to mean “any time after.” The dictionary definition of response supports that “response” is not solely temporal but must be a reply or reaction to something. For example, Merriam-Webster’s defines “response” as “something constituting a reply or reaction.” Exs. 2008, 2011, 2012. Other dictionaries provide similar definitions. Ex. 2009 (“an answer or reaction”); Ex. 2010 (“an answer or reply, as in words or in some action”). In the context of the ’911 Patent, this is how a POSITA would

understand this term as confirmed by the specification. For example, the specification states:

[T]he UE may start or restart the drx-InactivityTimer when the UE receives the WUS on the WUS occasion (in DRX active time or DRX inactive time). Alternatively, the UE may start or restart the drx-InactivityTimer when the UE does not receive the WUS on the WUS occasion (in DRX active time or DRX inactive time).

Ex. 1001, '911 Patent at 8:10-15. As shown above, in the '911 Patent, the drx-InactivityTimer is started or restarted as a reply or reaction to receipt of the WUS. This is further confirmed by the Declaration of R. Akl in Support of Patent Owner's Response. Ex. 2018, Akl Decl. at ¶¶ 47-49.

IV. LEGAL PRINCIPLES

A. Anticipation Under 35 U.S.C. § 102

Anticipation is determined by comparing the claim language with a single prior art reference. *See Wesley Jessen Corp. v. Bausch & Lomb, Inc.*, 209 F.Supp.2d 348, 391 (D. Del. 2002). Anticipation requires that every element of the claim be found either expressly or inherently “in a single prior art reference.” *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999). Inherency is established if the evidence makes “clear that the missing descriptive matter is necessarily present in the thing described in the reference and, and that it would be so recognized by persons of ordinary skill.” *Continental Can Co. v. Monsanto Co.*, 948 F.2d 1264,

1268 (Fed. Cir. 1991). Inherency cannot be established by probabilities. *In re Robertson*, 169 F.3d at 745.

Further, additional prior art references cannot be used to fill in gaps in a prior art reference for the purpose of anticipation. *Merck & Co., Inc. v. TEVA Pharmaceuticals USA, Inc.*, 228 F. Supp. 2d 480, 499 (2002) (rejecting contention that the defendant was “using two prior patents by the same inventor as extrinsic evidence to demonstrate the understanding of those skilled in the art” and instead finding that the defendant was “improperly buttressing their anticipation argument by utilizing multiple prior art references while trying to disguise them as sources for knowledge of skill in the art”). *See also Scripps Clinic & Research Foundation v. Genentech, Inc.*, 927 F.2d 1565, 1576-77 (Fed. Cir. 1991) (stating that “the role of extrinsic evidence is to educate the decision-maker to what the reference meant to persons of ordinary skill . . . not to fill gaps in the reference”).

B. Obviousness Under 35 U.S.C. § 103

A claim “is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007). An obviousness determination requires finding both “that a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so.” *Intelligent Bio-*

Sys., Inc. v. Illumina Cambridge Ltd., 821 F.3d 1359, 1367-68 (Fed. Cir. 2016) (citation omitted). Whether a skilled artisan would have been motivated to combine references is a question of fact. *Virtek Vision Intern'l LLC v. Assembly Guidance Systems, Inc.*, 97 F.4th 882, 886 (Fed. Cir. 2024). The Petitioner must explain and support its explanation regarding motivation to combine to demonstrate reliance on something other than hindsight bias. *See One World Techs., Inc. v. Chevron (HK) Ltd.*, No. IPR2020-00885, 2020 WL 6542022, at *13 (P.T.A.B. Nov. 6, 2020).

It is axiomatic that a difference between anticipation and obviousness is that each limitation need not be present in a single piece of prior art for the invention to be obvious. To prove obviousness, the Petitioners must show that all of the limitations are present in the combination of references relied upon. *See Rhine v. Casio, Inc.*, 183 F.3d 1342, 1346 (Fed. Cir. 1999) (remanding for further fact finding including motivation to combine even though court found all limitations present in combination); *Application of Royka*, 490 F.2d 981, 985 (CCPA 1974); *Roku, Inc. v. ITC*, 90 F.4th 1367, 1374 (Fed. Cir. 2024) (affirming ITC findings on nonobvious where administrative judge found that one limitation was missing from the combination); *see also Intellectual Ventures I, LLC v. Motorola Mobility LLC*, 176 F. Supp. 3d 405, 428 (D. Del. 2016), *aff'd in relevant part*, 870 F.3d 1320 (Fed. Cir. 2017); *Upsher-Smith Laboratories, Inc. v. Pan American Labs., Inc.*, 2003 WL 22999551, *4 (D. Minn. Dec. 19, 2003) (stating that “[t]o establish

invalidity on obviousness grounds, the moving party must show by clear and convincing evidence that all claim limitations are present in a combination of prior art references”) (citing *McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1351 (Fed. Cir. 2001)). There is no need to discuss motivation to combine the references of the combination when together they do not meet all claim limitations.

It is true that “knowledge of a POSA” or “common sense” in some cases can be used to “fill in” for a limitation missing in a reference or combination of references, but additional showings beyond the bare allegation must be made. The Court in *Arendi v. Apple, Inc.*, 832 F. 3d 1355 (Fed. Cir. 2016) stated:

[W]hile ‘common sense’ can be invoked, even potentially to supply a limitation missing from the prior art, it must still be supported by evidence and reasoned explanation. In cases ***where ‘common sense’ is used to supply a missing limitation***, as distinct from a motivation to combine, moreover, our search for a reasoned basis for resort to common senses ***must be searching***. And, ***this is particularly true where the missing limitation goes to the heart of the invention.***”

Arendi, 832 F.3d at 1363 (emphasis added). In *DSS Technology Management*, the Federal Circuit discussed and applied *Arendi* in reversing the PTAB’s ruling of obviousness where a conclusory allegation of “common sense” was relied upon to supply a missing limitation. *DSS*, 885 F.3d at 1374 (emphasis added).

Further, obviousness cannot be shown through the impermissible use of hindsight bias. *InTouch. Techs., Inc. v. VGO Commc'ns, Inc.*, 751 F.3d 1327, 1351 (Fed. Cir. 2014) (criticizing use of the challenged patent as a “roadmap” for putting what the expert referred to as “pieces of a ‘jigsaw puzzle’” together); see also *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1553 (Fed. Cir. 1983) (“[t]o imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher”).

Further, when asserting obviousness, the question is not whether a POSITA *could* make an identified modification; rather, it is whether they *would* make such a modification and why. See *Gamber-Johnson LLC v. National Products Inc.*, IPR2021-01159, Paper 7 at 32 (P.T.A.B. Jan. 3, 2022) (“Petitioner has identified a modification that could be made, but fails to show that a skilled artisan would have been motivated to make the modification as required to meet the claim”) (citing *Belden v. Berk-Tek LLC*, 805 F.3d 1064, 1073 (Fed. Cir. 2015) (“obviousness concerns whether a skilled artisan not only *could have made* but *would have been motivated to make* the combinations or modifications of prior art to arrive at the claimed invention”) (emphasis in original)).

C. Printed Publications as Prior Art

To qualify as a printed publication under 35 U.S.C. § 102, a reference must be publicly accessible. *In re Klopfenstein*, 380 F.3d 1345, 1350 (Fed. Cir. 2004) (“[t]hus, throughout our case law, public accessibility has been the criterion by which a prior art reference will be judged for the purposes of § 102(b)”). This requires more than just that the reference be technically available to the general public. As the Federal Circuit summarized, “[a] given reference is ‘publicly accessible’ upon a satisfactory showing that such document has been disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art exercising reasonable diligence, can locate it.” *SRI Int’l, Inc. v. Internet Sec. Sys., Inc.*, 511 F.3d 1186, 1194 (Fed. Cir. 2008) (quoting *Bruckelmyer v. Ground Heaters, Inc.*, 445 F.3d 1374, 1378 (Fed. Cir. 2006)). And such a determination necessarily “involves a case-by-case inquiry into the facts and circumstances surrounding the reference’s disclosure to members of the public.” *Klopfenstein*, 380 F.3d at 1350. At the final written decision phase, the Petitioners must prove that a reference is publicly accessible by a preponderance of the evidence. *Hulu, LLC v. Sound View Innovations, LLC*, IPR2018-01039, 2019 WL 7000067, at *4 (P.T.A.B. Dec. 20, 2019) (precedential).

V. OVERVIEW OF PRIOR ART CITED IN PETITION

A. *Nimbalker* (Ex. 1005)

Nimbalker discusses wireless communication techniques, focusing on wakeup signals, power saving, DRX operation, and related network procedures. With respect to DRX and power savings operations, *Nimbalker* specifically discusses conditional PDCCH monitoring.

B. *R1-1905031* (Ex. 1007)

R1-1905031 discusses the design considerations, requirements, and proposed solutions for PDCCH-based power saving channels in NR, focusing on wake-up signaling and UE adaptation during active time to enhance power efficiency without compromising performance.

C. *R1-1903016* (Ex. 1008)

R1-1903016 discusses potential techniques and design considerations for implementing UE power saving through PDCCH-based wake-up signaling in 3GPP NR (5G) systems.

D. *Anil* (Ex. 1009)

Anil focuses on methods and systems for beam failure recovery in 5G NR, focusing on secondary and special cells, PRACH configurations, and DRX operations.

VI. PETITIONERS' GROUNDS FAIL (ALL CLAIMS, ALL GROUNDS).

Petitioners fail to demonstrate that Claims 1-18 would have been anticipated or rendered obvious by the prior art to one skilled in the art at the earliest priority date of the '911 Patent.

A. Grounds 1 and 2: Claims 1-3, 5, 6, 10-12, 14, and 15: *Nimbalker*

Nimbalker does not anticipate or render obvious claims 1-3, 5, 6, 10-12, 14, or 15 of the '911 Patent.

1. Independent Claim 1

Claim 1 describes a power-savings improvement to the DRX mechanism to increase power savings. For example, the '911 Patent explains: "if the active time of the UE overlaps with the on duration of the next DRX cycle (e.g., if an amount of time of the DRX inactivity timer is longer than the DRX cycle), the UE may keep monitoring the PDCCH for possible scheduling until the DRX inactivity timer expires. In this case, the UE may need to monitor the PDCCH for scheduling as well as the WUS occasion simultaneously, which increases power consumption of the UE" but that by using the invention achieves "UE power saving by not monitoring the search space for scheduling the power saving signal (e.g., WUS) during the DRX active time." Ex. 1001, '911 Patent at 3:39-46 and 7:6-8.

As an initial matter, while Petitioners' Ground 1 contends that *Nimbalker* anticipates claim 1 under § 102 and Petitioners' Ground 2 contends that *Nimbalker*

renders obvious Claim 1 under § 103, Petitioners have only presented an obviousness analysis with respect to Claim 1 limitation [1c]. Because *Nimbalker* fails to disclose Claim 1 limitation [1c], and further because *Nimbalker* fails to render obvious Claim 1 limitation [1c], Grounds 1 and 2 fail. Further, as discussed below, because Grounds 1 and 2 are the only grounds challenging the Independent Claims, Grounds 3-5 likewise fail and the Petition should be denied in its entirety.

a) [1c]: “in response to not receiving the power saving signal while monitoring the second search space, starting a DRX on-duration timer of the DRX functionality;”

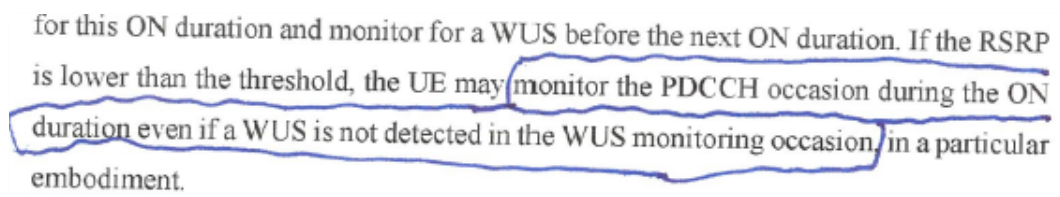
Nimbalker does not anticipate or render obvious the claim limitation “in response to not receiving the power saving signal while monitoring the second search space, starting a DRX on-duration timer of the DRX functionality.”

(1) *Nimbalker* does not disclose “starting a DRX on-duration timer.”

As an initial matter, *Nimbalker* does not disclose “starting a DRX on-duration timer.” With respect to this limitation, Petitioner and Dr. Kakaes assert that because *Nimbalker* discloses an “ON duration” it must disclose a starting an DRX on-duration timer. However, none of the citations to *Nimbalker* disclose this. See Ex. 1005, *Nimbalker* at pp. 8, 9, 12, 15, and Fig. 3. Instead of pointing to an express disclosure within *Nimbalker* disclosing starting a DRX on-duration timer, Petitioners and Dr. Kakaes point to the “ON duration” and then reference at least

eight other references to “explain” how *Nimbalker* allegedly discloses this limitation. See, e.g., Ex. 1003, Kakaes Decl. at ¶¶ 153-155.

For example, at deposition when asked to circle on *Nimbalker* p. 15 specifically what he contended disclosed “starting a DRX on-duration timer” Dr. Kakaes circled the following:



for this ON duration and monitor for a WUS before the next ON duration. If the RSRP is lower than the threshold, the UE may monitor the PDCCH occasion during the ON duration even if a WUS is not detected in the WUS monitoring occasion, in a particular embodiment.

Ex. 2016, Annotated Version of Ex. 1005; Ex. 2015, Kakaes Depo. at 62:19-65:4.

Dr. Kakaes then proceeded to opine that “[t]he person of ordinary skill in the art would understand that monitoring the PDCCH occasion during the ON duration means that an on-duration timer, namely the DRX on-duration timer, which is a timer of the DRX functionality, would be started.” Ex. 2015, Kakaes Depo. at 64:11-17. But the disclosure he points to says nothing about starting a DRX on-duration timer. This does not constitute express disclosure.

Instead of relying on express disclosure, Dr. Kakaes argues that this limitation is disclosed because “disclosure of starting a DRX ON duration period refers to starting the conventional drx-onDurationTimer specified in the configuration and described in 3GPP documents.” Ex. 1003, Kakaes Decl. at

¶¶ 154. However, such testimony fails to apply the “reasonably understand or infer” standard and as such fails to establish that *Nimbalker* discloses “starting a DRX on-timer.” See *SMA Solar Technology America, LLC v. Tigo Energy, Inc.*, 2024 WL 4590767 at *8 (2024) (rejecting testimony that “a micro-controller is ‘ubiquitous in electronic systems’ and ‘commonplace’” and finding that such “testimony does not apply the ‘reasonably understand or infer’ standard and is not enough to establish . . . disclos[ure]”); *Teleflex, Inc. v. Ficosa North America Corp.*, 299 F.3d 1313, 1335 (2002) (rejecting an attempt to “combine the teachings of the references to build an anticipation” and explaining that “[a]lthough we have permitted the use of additional references to confirm the contents of the allegedly anticipating reference . . . we have made clear that anticipation *does not permit an additional reference to supply a missing claim limitation*”) (emphasis added).

Indeed, as explained by Dr. Akl, there are other mechanisms causing an ON duration. Ex. 2018, Akl Decl. at ¶¶ 64-66. As he explains, “the UE can effectively have an ON duration without explicitly starting the onDurationTimer, because the UE can be in Active Time due to other DRX events. In those cases, the UE monitors PDCCH continuously even though the onDurationTimer itself was never started.” Ex. 2018, Akl Decl. at ¶¶ 64-65 (listing other DRX events including ra-ResponseWindow, scheduling request pending, pending HARQ retransmission among others) (Ex. 1022, 3GPP TS 38.321 at 38-40). Inherency requires

demonstrating that a limitation is “‘necessarily present,’ not merely probably or possibly present, in the prior art.” *Trintec Indus., Inc. v. Top U.S.A. Corp.*, 295 F.3d 1292, 1295 (Fed. Cir. 2002). In view of this, and in light of Dr. Akl’s testimony, Dr. Kakaes’ analysis is insufficient to establish express or inherent disclosure of “starting a DRX on-duration timer.”

(2) *Nimbalker* does not render obvious “starting a DRX on-duration timer.”

Tacitly acknowledging *Nimbalker*’s lack of anticipatory disclosure, Petitioners and Dr. Kakaes then go on to assert that this limitation is at least rendered obvious by *Nimbalker*. Petition, pp. 34-39; Ex. 1003, Kakaes Decl. at ¶ 156. In support of this argument, Petitioners and Dr. Kakaes cite many of the same references discussed above—none of which are identified in Ground 2 as being a reference relied upon for obviousness. Ex. 1003, Kakaes Decl. at ¶¶ 160. The contention in Ground 2 is a single-reference obviousness contention based on *Nimbalker* alone. Dr. Kakaes confirmed that he is not relying on these other references as part of the obviousness combination—but without them *Nimbalker* simply does not have the required disclosure as discussed above. See Ex. 2015, Kakaes Depo. at 91:12-93:16; *RPX Corp. v. Parity Networks, LLC*, IPR2018-00097, Paper 7, 14 (Apr. 24, 2018) (“[p]etitioner also cites to several other references . . . but does not assert these references are part of the combination. Pet.

34–35. Relying on knowledge in the art does not . . . show a motivation to combine existing components in the manner claimed free of hindsight motivation”);

Edwards Lifesciences Corp. v. Aortic Innovations LLC, IPR2023-01232, Paper 10, 36 (Feb. 7, 2024) (“[p]etitioner’s rationale to modify Spenser II based on inchoate and ***unasserted combinations*** is also unpersuasive”).

Petitioners’ argument for single reference obviousness with respect to this limitation is circular and based on the *ipse dixit* opinion of Dr. Kakaes. Specifically, Dr. Kakaes argues that a “POSITA would have found this obvious because it merely involves implementing 3GPP standards and recommendations, improves operation of the UE, and reduces power consumption.” Ex. 1003, Kakaes Decl. at ¶ 158. Dr. Kakaes then goes on to opine that a “POSITA would have been motivated to use this conventional on-duration timer functionality during *Nimbalker*’s ON duration PDCCH monitoring following WUS misdetection to preserve UE battery life by limiting the amount of time the UE may monitor the PDCCH first search space if no scheduling messages are received because the UE will not have to monitor PDCCH for the entire DRX cycle.” Ex. 1003, Kakaes Decl., ¶ 160. But this line of reasoning is flawed in at least two ways.

First, Dr. Kakaes merely relies on his assertion that starting a DRX ON timer was conventional. Ex. 1003, Kakaes Decl. at ¶¶ 155, 160, 164; Ex. 2015, Kakaes Depo. at 81:16-82:3. This is insufficient. This argument is nothing more than an

assertion that something is “common” but does not provide a reason why in this particular case a POSITA *would* choose that solution. Indeed, as Dr. Kakaes’ deposition corroborates, he did not consider alternative scenarios triggering an ON duration as described by Dr. Akl. Ex. 2015, Kakaes Depo. at 81:16-82:3; Ex. 2018, Akl Decl. at ¶¶ 64-66. See *SMA Solar Technology America, LLC v. Tigo Energy, Inc.*, 2024 WL 4590767 at *8 (2024) (rejecting testimony that “a micro-controller is ‘ubiquitous in electronic systems’ and ‘commonplace’” and finding that such “testimony does not apply the ‘reasonably understand or infer’ standard and is not enough to establish . . . disclos[ure]”); *Gamber-Johnson LLC v. National Products Inc.*, IPR2021-01159, Paper 7 at 32 (P.T.A.B. Jan. 3, 2022) (“Petitioner has identified a modification that could be made, but fails to show that a skilled artisan would have been motivated to make the modification as required to meet the claim”).

Second, Dr. Kakaes offers no explanation for how or why specifically starting an ON duration timer would improve the operation of the UE or reduce power consumption as compared to alternative methods of implementing an ON duration. So, while there may be an argument that implementing an ON duration improves operation of the UE and reduces power consumption, that does not provide a reason for why the specific implementation identified by Dr. Kakaes is

better than the others or why a POSITA would have specifically selected the implementation as claimed in Claim 1. Ex. 2018, Akl Decl. at ¶ 69.

(3) *Nimbalker* does not disclose starting any type of timer “in response to not receiving the power saving signal.”

A POSITA would not recognize *Nimbalker* as disclosing the Claim 1 limitation [1c]: “in response to not receiving the power saving signal while monitoring the second search space, starting a DRX on-duration timer of the DRX functionality.” Contrary to Petitioners’ and Dr. Kakaes’ assertions, *Nimbalker* does not disclose the requirement of “in response to not receiving the power saving signal while monitoring the second search space, [starting/start] a DRX on-duration timer of the DRX functionality.” Ex. 1001, ’911 Patent at 13:55-57; 14:65-67. Rather, *Nimbalker* discloses determining whether to monitor the PDCCH in response to the additional condition (such as RSRP or WUS decoder reliability), not the receipt of the WUS. See, e.g., Ex. 1005, *Nimbalker* at pp. 8-9.

In support of their contention, both Petitioners and Dr. Kakaes selectively cite portions of sentences of *Nimbalker* to mask *Nimbalker*’s disclosure that a condition other than WUS detection is used to determine whether to monitor for PDCCH.³ See Petition, p. 31; Ex. 1003, Kakaes Decl. at ¶ 150. For example, the Petition and Dr. Kakaes state “*Nimbalker* discloses that ‘with the successful/unsuccessful WUS detection criterion,’ the UE may ‘determine whether

to monitor/skip monitoring PDCCH in PDCCH monitoring occasion(s) corresponding to the WUS monitoring occasion.” *Id.* (Both citing Ex. 1005, *Nimbalker* at pp. 8-9.). But *Nimbalker* does not disclose that the UE determines whether to monitor PDCCH based on the WUS detection criterion. *Nimbalker* actually states:

with the ‘successful/unsuccessful WUS detection’ criterion, the UE may use *another reliability condition* (e.g. whether RSRP measured by UE is above/below a certain threshold, or whether WUS-PDCCH decoder’s internal information suggests a presence of a compatibly encoded PDCCH) *to determine whether to monitor/skip monitoring PDCCH* in PDCCH monitoring occasion(s) corresponding to the WUS monitoring occasion.”

Ex. 1005, *Nimbalker* at pp. 8-9. Similarly, the Petition states,

[t]herefore, if the ‘UE does not detect WUS in a WUS monitoring occasion before a DRX ON duration’ (not receiving the power saving signal while monitoring the second search space), the UE may ‘monitor the PDCCH occasion during the ON duration [start a DRX on-duration timer of the DRX functionality] even if a WUS is not detected in the WUS monitoring occasion.

Petition, p. 32; *see also* Ex. 1003, Kakaes Decl. at ¶ 151. But that is not what *Nimbalker* discloses. The full disclosure is:

According to certain embodiments, the UE may not detect WUS in a WUS monitoring occasion before a DRX ON duration. Instead of only

relying on the lack of detecting a WUS, the UE may further determine if the RSRP is larger than a RSRP threshold. If the RSRP exceeds the threshold, the UE may skip PDCCH monitoring for this ON duration and monitor for a WUS before the next ON duration. *If the RSRP is lower than the threshold, the UE may monitor the PDCCH occasion during the ON duration even if a WUS is not detected in the WUS monitoring occasion, in a particular embodiment.*

Ex. 1005, *Nimbalker* at p. 15.

Nimbalker discloses a “Conditional Wake-Up Signal Configuration for New Radio.” Ex. 1005, *Nimbalker* at Title. *Nimbalker* explains:

According to certain embodiments, a conditional WUS operation is provided, wherein if a device such as, for example, a UE does not detect the WUS in a WUS monitoring occasion, the UE may determine whether or not to monitor a Physical Downlink Control Channel (PDCCH) *based* on an additional condition such as, for example, a Reference Signal Received Power (RSRP) condition or a WUS decoder reliability metric, thereby providing additional robustness when reliable detection of WUS cannot be ensured.

Id. at p. 8.

Thus, *Nimbalker* determines whether to monitor the PDCCH in response to the additional condition (such as RSRP or WUS decoder reliability), not the receipt of the WUS. *Nimbalker* further explains the purpose for using these additional conditions instead of the WUS:

According to certain embodiments, the UE may be configured with a conditional WUS operation. For example, certain embodiments described above include a procedure in which the UE skips monitoring the PDCCH in PDCCH monitoring occasion(s) (e.g. DRX ON duration(s)), corresponding to the WUS monitoring occasion if the UE does not detect WUS in a WUS monitoring occasion. However, the reliability of WUS detection may depend on the UE propagation channel condition between the network node (e.g., a new radio network node, such as a gNB) that is transmitting the WUS and the UE and/or a detection threshold which may be fixed or adaptive for the corresponding WUS detector. ***In circumstances where WUS detection is less reliable, it may be desirable for the UE not to solely rely on a ‘unsuccessful WUS detection’ in a WUS monitoring occasion as the criterion for skipping PDCCH monitoring in PDCCH monitoring occasion(s) associated with that WUS monitoring occasion.***

Id. at p. 12 (emphasis added).

Nimbalker makes clear that monitoring for the PDCCH is in response to the status of another condition because WUS reception may be an unreliable indicator. And even where that other condition is met, *Nimbalker* merely discloses that the UE *may* skip PDCCH monitoring. *Id.* (“If the RSRP exceeds the threshold, the UE *may* skip PDCCH monitoring for this ON duration and monitor for a WUS before the next ON duration.”) (emphasis added). Because the system in *Nimbalker* determines whether to monitor the PDCCH in response to the status of another

condition (such as RSRP) and not the WUS, it does not disclose “in response to not receiving the power saving signal while monitoring the second search space, starting a DRX on-duration timer of the DRX functionality.” *See id.* at p. 15 (“if the UE does not detect a WUS in a WUS monitoring occasion, *the UE may apply a condition* such as, for example, the RSRP threshold determination, *to determine whether to wake-up and monitor the PDCCH* or not monitor the PDCCH during the PDCCH monitoring occasion(s) corresponding to the WUS monitoring occasion.”) (emphasis added).

(4) *Nimbalker* does not render obvious starting any type of timer “in response to not receiving the power saving signal.”

Of note, Petitioners do *not* argue that it would be obvious to eliminate use of the other reliability conditions from *Nimbalker* to arrive at the claimed limitation. *See* Petition at pp. 34-36; Ex. 1003, Kakaes Decl. at ¶¶ 156-158. Rather, as discussed in Section VI.A.1.a.(1)-(2) above, Petitioners only argue that it would be obvious based on *Nimbalker* to “start/starting a DRX on-duration timer of the DRX functionality.” *Id.* In any event, *Nimbalker* does not render Claim 1 limitation [1c] obvious.

As discussed above, *Nimbalker* expressly cautions *against* deciding whether to monitor the PDCCH based on WUS receipt because WUS receipt is allegedly an unreliable indicator. *See e.g.*, Ex. 1005, *Nimbalker* at p. 12. Accordingly,

Nimbalker relies on a different condition to determine whether to monitor the PDCCH. Because *Nimbalker* cautions against deciding whether to monitor the PDCCH based on WUS receipt alone, one of ordinary skill in the art would not have found it obvious to omit the additional conditional checks disclosed in *Nimbalker*. See *In re Haruna*, 249 F.3d 1327, 1335 (Fed. Cir. 2001) (“[a] reference may be said to teach away when a person of ordinary skill, upon reading the reference would be led in a direction divergent from the path that was taken by the applicant”).

Further, monitoring based on an additional condition potentially incurs the expenditure of additional computational resources which would be counterproductive to the '911 Patent's goal of power savings. Ex. 2018, Akl Decl. at ¶ 80.

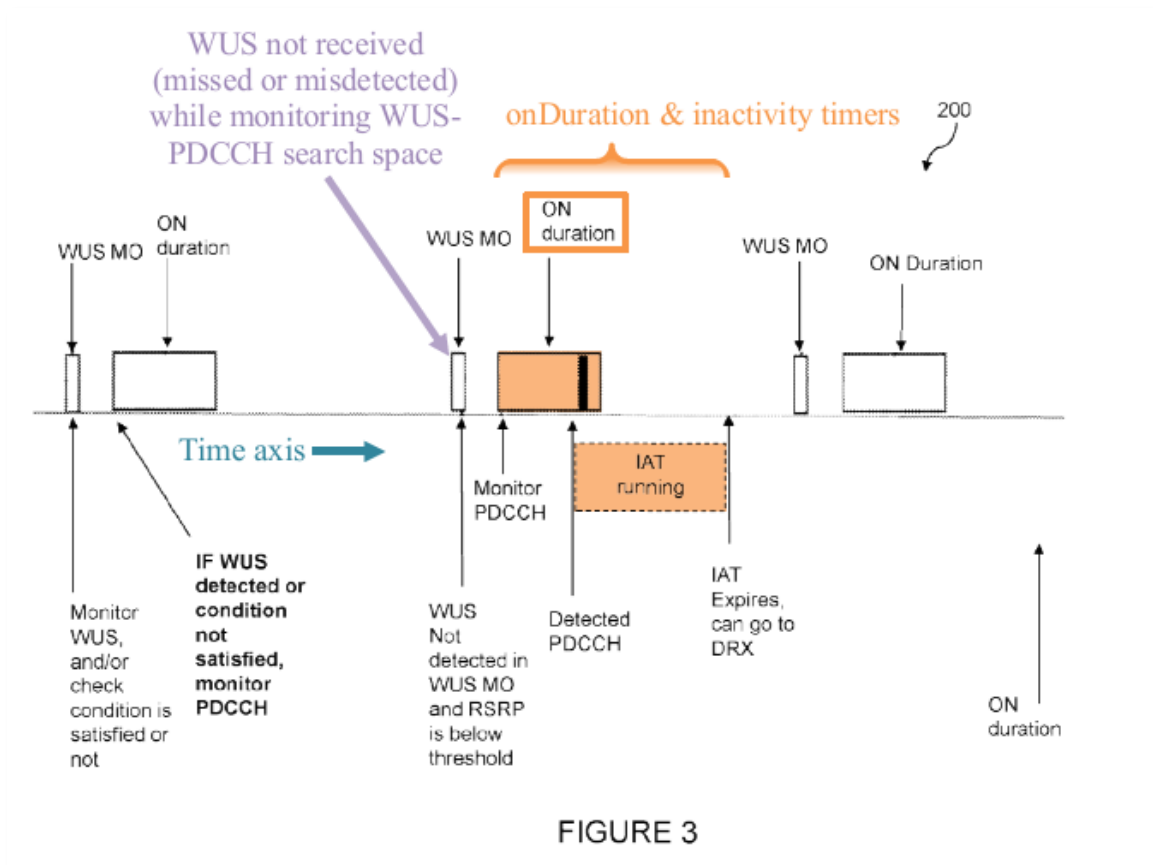
(5) Petitioners' contention and Dr. Kakaes' opinion regarding whether *Nimbalker* discloses or renders obvious “in response to not receiving the power saving signal while monitoring the second search space, starting a DRX on-duration timer of the DRX functionality” requires the term “response” to be construed; however, Petitioner failed to offer any such construction in its Petition.

Any contention that starting a DRX on-duration timer in response to a subsequent condition is equivalent to starting a DRX on-duration timer in response

to not receiving the power savings signal as discussed in Sections VI.A.1.a(1)-(2) above contradicts the plain and ordinary meaning of the term “response.”

One of ordinary skill in the art would understand the plain and ordinary meaning of the term “in response” to mean “in reply” or “as a reaction to” an event. See Section III above; Ex. 1001, ’911 Patent at 8:10-15 (explaining that “[T]he UE may start or restart the drx-InactivityTimer when the UE receives the WUS on the WUS occasion (in DRX active time or DRX inactive time). Alternatively, the UE may start or restart the drx-InactivityTimer when the UE does not receive the WUS on the WUS occasion (in DRX active time or DRX inactive time”); Exs. 2008, 2011, 2012. Other dictionaries provide similar definitions. Ex. 2009 (“an answer or reaction”); Ex. 2010 (“an answer or reply, as in words or in some action”); Ex. 2018, Akl Decl., ¶ 47-49. However, Petitioner’s contention relies on the understanding that “response” means “any time after.”

Notably, in Figure 3 below, which Dr. Kakaes primarily relies upon shows only that the DRX on-duration occurs at some point after “WUS [Wake-Up Signal] not detected in WUS MO and RSRP is below threshold.” Nowhere in Figure 3 (annotated by Dr. Kakaes) does it disclose that the DRX on-duration begins “in response to” not receiving the WUS. Instead, it shows that the DRX on-duration begins at some point after the WUS is not received.



Petitioner did not propose such a claim construction in its Petition, and it is too late for it to do so now. Because it failed to comply with the requirements of 37 C.F.R. § 42.283(b)(3), the Petition should be denied.

2. Claim 2: “The method of claim 1, wherein the first search space includes at least one of a first time and a first frequency resource for the UE to monitor the scheduling signal, and the second search space includes at least one of a second time and a second frequency resource for the UE to monitor the power saving signal.”

Petitioners have failed to show that *Nimbalker* anticipates or renders obvious Claim 1; as such, Petitioners’ challenge to Claim 2 necessarily fails. Ex. 2018, Akl Decl. at ¶ 84.

3. Claim 3: “The method of claim 1, further comprising: determining whether to start a DRX on-duration timer of the DRX functionality according to the wakeup information.”

As an initial matter, Petitioners have failed to show that *Nimbalker* anticipates or renders obvious Claim 1; as such, Petitioners’ challenge to Claim 3 necessarily fails. Ex. 2018, Akl Decl. at ¶ 85.

Further, as explained above in Sections VI.A.1.a(1)-(2), a POSITA would not have recognized *Nimbalker*’s disclosure of an “ON-duration” period as disclosing or rendering obvious “start[ing] a DRX on-duration timer” as required by Claim 3. For at least this additional reason, *Nimbalker* fails to disclose or render obvious Claim 3. Ex. 2018, Akl Decl. at ¶ 86-87.

4. Claim 5: “The method of claim 1, wherein the power saving signal is not received in the second search space in response to when at least one of [i] the UE does not monitor the second search space and [ii] the UE unsuccessfully decodes the power saving signal.”

As an initial matter, Petitioners have failed to show that *Nimbalker* anticipates or renders obvious Claim 1; as such, Petitioners’ challenge to Claim 5 necessarily fails. Ex. 2018, Akl Decl. at ¶ 88.

5. Claim 6: “The method of claim 1, wherein the not monitoring the second search space comprises: not monitoring the second search space while a DRX inactivity timer of the DRX functionality is running.”

Petitioners have failed to show that *Nimbalker* anticipates or renders obvious Claim 1; as such, Petitioners’ challenge to Claim 6 necessarily fails. Ex. 2018, Akl Decl. at ¶ 89.

6. Independent Claim 10

a) [10d]: “in response to not receiving the power saving signal while monitoring the second search space, start a DRX on-duration timer of the DRX functionality;”

Nimbalker fails to anticipate or render obvious Claim 10 limitation [10d] for the same reasons it fails to anticipate or render obvious Claim 1 limitation [1c] discussed above. *See* Section VI.A.1(a) above; Ex. 2018, Akl Decl. at ¶¶ 90-91.

7. Claim 11: “The UE of claim 10, wherein the first search space includes at least one of a first time and a first frequency resource for the UE to monitor the scheduling signal, and the second search space includes at least one of a second time and a second frequency resource for the UE to monitor the power saving signal.”

Nimbalker fails to anticipate or render obvious Claim 11 for the same reasons it fails to anticipate or render obvious Claim 2 discussed above. *See* Section VI.A.2 above; Ex. 2018, Akl Decl. at ¶ 92.

8. Claim 12: “The UE of claim 10, wherein the computer executable instructions further instruct the processor to: determine whether to start a DRX on-duration timer of the DRX functionality according to the wake-up information.”

Nimbalker fails to anticipate or render obvious Claim 12 for the same reasons it fails to anticipate or render obvious Claim 3 discussed above. See Section VI.A.3 above; Ex. 2018, Akl Decl. at ¶ 93.

9. Claim 14: “The UE of claim 10, wherein the computer executable instructions further instruct the processor to: not receive the power saving signal in the second search space in response to when at least one of [i] the UE does not monitor the second search space and [ii] the UE unsuccessfully decodes the power saving signal.”

Nimbalker fails to anticipate or render obvious Claim 14 for the same reasons it fails to anticipate or render obvious Claim 5 discussed above. See Section VI.A.4 above; Ex. 2018, Akl Decl. at ¶ 94.

10. Claim 15: “The UE of claim 10, wherein the computer executable instructions further instruct the processor to: not monitor the second search space while a DRX inactivity timer of the DRX functionality is running.”

Nimbalker fails to anticipate or render obvious Claim 15 for the same reasons it fails to anticipate or render obvious Claim 6 discussed above. See Section VI.A.5 above; Ex. 2018, Akl Decl. at ¶ 95.

B. Ground 3: Claims 2, 4, 11, and 13: *Nimbalker* in View of *R1-1905031*

The combination of *Nimbalker* and *R1-1905031* would not have rendered Claims 2, 4, 11, or 14 obvious.

1. Claim 2: “The method of claim 1, wherein the first search space includes at least one of a first time and a first frequency resource for the UE to monitor the scheduling signal, and the second search space includes at least one of a second time and a second frequency resource for the UE to monitor the power saving signal.”

Petitioners have failed to show that *Nimbalker* anticipates or renders obvious Claim 1. Further, Ground 3 does not challenge Claim 1. As such, Petitioners’ challenge to Claim 2 necessarily fails. *See* Section VI.A.1 above; Ex. 2018, Akl Decl. at ¶ 97.

2. Claim 4: “The method of claim 1, wherein the power saving signal is further used for indicating a bandwidth part switch of a cell.”

Petitioners have failed to show that *Nimbalker* anticipates or renders obvious Claim 1. Further, Ground 3 does not challenge Claim 1. As such, Petitioners’ challenge to Claim 4 necessarily fails. *See* Section VI.A.1 above; Ex. 2018. Akl Decl. at ¶ 98.

3. Claim 11: “The UE of claim 10, wherein the first search space includes at least one of a first time and a first frequency resource for the UE to monitor the scheduling signal, and the second search space includes at least one of a second time and a second frequency resource for the UE to monitor the power saving signal.”

The combination of *Nimbalker* with *R1-1905031* fails to render obvious Claim 11 for the same reasons it fails to anticipate or render obvious Claim 2 discussed above. See Section VI.B.1 above; Ex. 2018, Akl Decl. at ¶ 99.

4. Claim 13: “The UE of claim 10, wherein the power saving signal is further used for indicating a bandwidth part switch of a cell.”

The combination of *Nimbalker* with *R1-1905031* fails to render obvious Claim 13 for the same reasons it fails to anticipate or render obvious Claim 4 discussed above. See Section VI.B.2 above; Ex. 2018, Akl Decl. at ¶ 100.

C. Ground 4: Claims 2, 4, 11, and 13: *Nimbalker* in View of *R1-1903016*

A POSITA would not have found that the combination of *Nimbalker* and *R1-1903016* to render obvious Claim 2: “[t]he method of claim 1, wherein the first search space includes at least one of a first time and a first frequency resource for the UE to monitor the scheduling signal, and the second search space includes at least one of a second time and a second frequency resource for the UE to monitor the power saving signal.”

1. Claim 2: “The method of claim 1, wherein the first search space includes at least one of a first time and a first frequency resource for the UE to monitor the scheduling signal, and the second search space includes at least one of a second time and a second frequency resource for the UE to monitor the power saving signal.”

As an initial matter, Petitioners have failed to show that *Nimbalker* anticipates or renders obvious Claim 1. Further, Ground 4 does not challenge Claim 1. As such, Petitioners’ challenge to Claim 2 necessarily fails. *See* Section VI.A.1 above; Ex. 2018, Akl Decl. at ¶ 102.

2. Claim 4: “The method of claim 1, wherein the power saving signal is further used for indicating a bandwidth part switch of a cell.”

Petitioners have failed to show that *Nimbalker* anticipates or renders obvious Claim 1. Further, Ground 4 does not challenge Claim 1. As such, Petitioners’ challenge to Claim 4 necessarily fails. *See* Section VI.A.1 above; Ex. 2018, Akl Decl. at ¶ 103.

3. Claim 11: “The UE of claim 10, wherein the first search space includes at least one of a first time and a first frequency resource for the UE to monitor the scheduling signal, and the second search space includes at least one of a second time and a second frequency resource for the UE to monitor the power saving signal.”

The combination of *Nimbalker* with *R1-1903016* fails to render obvious Claim 11 for the same reasons it fails to anticipate or render obvious Claim 2 discussed above. *See* Section VI.C.1 above; Ex. 2018, Akl Decl. at ¶ 104.

4. Claim 13: “The UE of claim 10, wherein the power saving signal is further used for indicating a bandwidth part switch of a cell.”

The combination of *Nimbalker* with *R1-1903016* fails to render obvious Claim 13 for the same reasons it fails to anticipate or render obvious Claim 4 discussed above. *See* Section VI.C.2 above; Ex. 2018, Akl Decl. at ¶ 105.

D. Ground 5: Claims 7-9 and 16-18: *Nimbalker* in View of *Anil*

The combination of *Nimbalker* and *Anil* would not render obvious claims 7-9 or 16-18.

1. Claim 7: “The method of claim 1, further comprising: not monitoring the second search space in response to the UE performing a random access procedure, wherein the UE performs the random access procedure in response to one of: [i] a random access response window is running after transmitting a first random access preamble; and [ii] the UE has not received the scheduling signal on the PDCCH indicating a new transmission addressed to a Cell Radio Network Temporary Identifier (C-RNTI) of the UE after successful reception of a random access response corresponding to a second random access preamble not selected by the UE among contention-based random access preambles.”

Petitioners have failed to show that *Nimbalker* anticipates or renders obvious Claim 1. Further, Ground 5 does not challenge Claim 1. As such, Petitioners’ challenge to Claim 7 necessarily fails. *See* Section VI.A.1 above; Ex. 2018, Akl Decl. at ¶ 107.

2. Claim 8: “The method of claim 1, further comprising: not monitoring the second search space in response to at least one of [i] the UE performing a beam failure recovery procedure and [ii] the UE monitoring a third search space on the PDCCH, wherein the third search space is configured for the UE to monitor a beam failure response from the base station.”

Petitioners have failed to show that *Nimbalker* anticipates or renders obvious Claim 1. Further, Ground 5 does not challenge Claim 1. As such, Petitioners’ challenge to Claim 8 necessarily fails. *See* Section VI.A.1 above; Ex. 2018, Akl Decl. at ¶ 108.

3. Claim 9: “The method of claim 1, wherein the power saving signal is only received from a special cell (SpCell) of the base station.”

Petitioners have failed to show that *Nimbalker* anticipates or renders obvious Claim 1. Further, Ground 5 does not challenge Claim 1. As such, Petitioners’ challenge to Claim 9 necessarily fails. *See* Section VI.A.1 above; Ex. 2018, Akl Decl. at ¶ 109.

4. Claim 16: “The UE of claim 10, wherein the computer executable instructions further instruct the processor to: not monitoring the second search space in response to the UE performing a random access procedure, wherein the UE performs the random access procedure in response to one of: [i] a random access response window is running after transmitting a first random access preamble; and [ii] the UE has not received the scheduling signal on the PDCCH indicating a new transmission addressed to a Cell Radio Network Temporary Identifier (C-RNTI) of the UE after successful reception of a random access response corresponding to a second random access preamble not selected by the UE among contention-based random access preambles.”

The combination of *Nimbalker* with *Anil* fails to render obvious Claim 16 for the same reasons it fails to anticipate or render obvious Claim 7 discussed above. See Section VI.D.1 above; Ex. 2018, Akl Decl. at ¶ 110.

5. Claim 17: “The UE of claim 10, wherein the computer executable instructions further instruct the processor to: not monitor the second search space in response to at least one of [i] the UE performing a beam failure recovery procedure and [ii] the UE monitoring a third search space of the PDCCH, wherein the third search space is configured for the UE to monitor a beam failure response from the base station.”

The combination of *Nimbalker* with *Anil* fails to render obvious Claim 17 for the same reasons it fails to anticipate or render obvious Claim 8 discussed above. See Section VI.D.2 above; Ex. 2018, Akl Decl. at ¶ 111.

6. Claim 18: “The UE of claim 10, wherein the power saving signal is only received from a special cell (SpCell) of the base station.”

The combination of *Nimbalker* with *Anil* fails to render obvious Claim 18 for the same reasons it fails to anticipate or render obvious Claim 9 discussed above. *See* Section VI.D.3 above; Ex. 2018, Akl Decl. at ¶ 112.

E. The Petition fails to establish that *R1-1905031* and *R1-1903016*, relied by the Petition for GROUNDS 3 AND 4, qualify as a “printed publication” under 35 U.S.C. § 102(b).

For the reasons explained below, *R1-1905031* and *R1-1903016*, relied upon by Petitioner in Grounds 3 and 4, do not qualify as prior art.

1. The Petition, and supporting expert declaration, fail to establish that *R1-1905031* and *R1-1903016* were “publicly accessible” to a POSITA before the priority date of the ’911 Patent.

The Petition, and the supporting declaration of Petitioner’s expert, Mr. Rodermund, fail to establish that *R1-1905031* and *R1-1903016* (Exs. 1007 and 1008, respectively) (collectively “the TDocs”), were publicly accessible to a POSITA before the April 30, 2019, priority date of the ’911 Patent. Indeed, Mr. Rodermund’s declaration, on which the Petition wholly relies for this issue (*see* Petition at 20-21), contains **no** discussion of whether a POSITA would be able to locate the two TDocs when exercising reasonable diligence. *See* Ex. 1026, Rodermund Decl. at ¶¶ 60-77. Indeed, the term “person having ordinary skill in the art” (or its equivalents) do not appear anywhere in his declaration. At his

deposition, Mr. Rodermund agreed that he did not know or consider a POSITA in his public availability analysis.

In his declaration, Mr. Rodermund discusses that a 3GPP delegate or user could access the TDocs through 3GPP's FTP server. Ex. 1026, Rodermund Decl. at ¶¶ 60-77. The fact that a reference is available on an FTP server that the public can access is not sufficient to establish public accessibility. *Nokia of America Corp. v. ICom, GMBH & Co. KG*, IPR2021-00533, Paper 10 at 30 (P.T.A.B. Aug. 12, 2021) (finding a document available on 3GPP's FTP not to be publicly accessible, despite an expert declaration supporting its public availability). Rather, Mr. Rodermund's declaration must show that a POSITA could locate the references on the FTP site with reasonable diligence. *SRI Int'l*, 511 F.3d at 1194. It does not. The declaration does not discuss, let alone establish, that a POSITA could locate the references with reasonable diligence.

Instead, Mr. Rodermund's declaration focuses on *when* the reference was available on the 3GPP FTP site, not whether a POSITA would be able to find it. See Ex. 1026, Rodermund Decl. at ¶¶ 62-65, 71-74; Ex. 2017, Rodermund Depo. at 214:2-6. In his declaration, Mr. Rodermund does not assert that the 3GPP FTP server is indexed or searchable, nor does he attempt to conduct any searches to locate the TDocs. Ex. 2017, Rodermund Depo. at 204:8-12, 213:19-214:1. The lack of a meaningful searchability function and indexing is a significant factor

when determining whether something is publicly accessible. *Blue Calypso, LLC v. Groupon, Inc.*, 815 F.3d 1331, 1349 (Fed. Cir. 2016) (noting that indexing by author name and title was not “meaningful”). Each of those 3GPP FTP sites where the TDocs can be found have approximately 2,000 documents listed by TDoc number. Ex. 2017, Rodermund Depo. at 204:17-205:6; Ex. 1026, Rodermund Decl. at ¶ 71 (screenshot showing 2002 TDocs listed). Those TDoc numbers do not provide any indication of the substance of the TDoc. Ex. 2017, Rodermund Depo. at 134:12-135:20. So, without a searchability functionality, Mr. Rodermund provides no meaningful way for a POSITA to locate the TDocs, unless like Mr. Rodermund, the POSITA knew the details of the document, including the document number, before he began searching. And notably, Mr. Rodermund never discusses any searches he conducted to locate the TDocs on the 3GPP FTP server.

Petitioner’s definition of a POSITA does not include any familiarity with 3GPP or the structure of its website that would allow that POSITA to locate the TDocs on the 3GPP FTP server. Specifically, Petitioner asserted that a POSITA “would have had at least a master’s degree in electrical engineering or a similar field and at least two years of experience working with wireless telecommunications systems.” Petition, p. 18. Mr. Rodermund did not apply this definition when determining whether the TDocs were publicly available and did not analyze public availability from the standpoint of a POSITA. Ex. 2017,

Rodermund Depo. at 49:10-19, 50:20-51:4. The majority of POSITA's would not be 3GPP delegates, which compose a small subset of engineers. Ex. 2017, Rodermund Depo. at 136:16-137:20. So, a POSITA would not necessarily understand the labyrinthian organization of 3GPP's documents, or its various specification and working groups. So, because the Petition, and Mr. Rodermund's declaration on which it relies, are devoid of any analysis regarding whether a POSITA would be able to locate the TDocs on the 3GPP FTP server with reasonable diligence, Petitioner has not established by a preponderance of the evidence that the TDocs were publicly accessible before April 30, 2019, the priority date of the '911 Patent.

Further, a POSITA would have been searching to solve the same issues in the prior art that the '911 Patent sought to solve. Mr. Rodermund did not know what problem the '911 Patent intended to solve and had never even seen or read the '911 Patent before issuing his declaration. Ex. 2017, Rodermund Depo. at 52:16-22. So, his discussion of the location of the TDocs, unlike the search a POSITA would conduct, was not directed towards solving a problem in the prior art, but was based on the documents themselves, which he was given before he issued his declaration. *See* Ex. 2017, Rodermund Depo. at 54:1-19.

And for the TDocs, Mr. Rodermund relied on historical versions of the 3GPP FTP server pulled from the Internet Archive. Ex. 1026, Rodermund Decl. at ¶¶ 62,

71. But those historical versions of the 3GPP FTP website each postdate the priority date of the '911 Patent by over a year. Specifically, for each of the TDocs, the website from the Internet Archive was publicly available on June 19, 2020, over a year after the April 30, 2019, priority date. *See* Ex. 2017, Rodermund Depo. at 207:5-20, 212:10-18. So, there is no evidence that the 3GPP FTP website where the TDocs were allegedly available even existed before the priority date of the '911 Patent.

Further, the date on the 3GPP FTP server that Mr. Rodermund relies on to show when the TDocs were allegedly available is not reliable. 3GPP and ETSI expressly disclaim the accuracy or reliability of any information contained on the 3GPP Website. *See* Ex. 2020 (3GPP Terms of Use) at 3. Specifically, ETSI states that it “makes no representations or warranties as to the accuracy, reliability or completeness of any information incorporated thereto and contained on the 3GPP Website.” *Id.* And Mr. Rodermund has no personal knowledge regarding the document or when it was uploaded to provide the information that ETSI concedes may not be accurate. Indeed, he left ETSI in 2004, over 14 years before the TDocs were allegedly created, and did not attend the meetings where they were purportedly discussed. Ex. 1026, Rodermund Decl. at Appendix A, pp. 2-3; *see* Ex. 2017, Rodermund Depo. at 203:20-22, 214:19-215:5.

Petitioner and Mr. Rodermund have also not established that the T-Docs were disseminated. *See SRI Int'l*, 511 F.3d at 1194 (noting that dissemination is one way to establish that a reference was publicly accessible). Mr. Rodermund does not discuss dissemination in his declaration. He does discuss the meeting reports for each of the meetings where the TDocs are listed but does not provide an opinion regarding dissemination. Ex. 1026, Rodermund Decl. at ¶¶ 66, 75. But those meeting reports are each over 150 pages long, do not attach the TDocs, mention the TDocs in passing on one page, and include a document list that has over 2,000 documents. Ex. 2017, Rodermund Depo at 209:21-210:15, 215:9-216:1; Ex. 1026, Rodermund Decl. at ¶¶ 67, n.4, 76 n.4. And Mr. Rodermund never opines that a POSITA or even a meeting attendee would have received this report. Nor does he opine that a POSITA would have been aware of the report or been able to find the TDocs in the more than 2,000 docs listed with each report.

Thus, because Petitioner and its expert, Mr. Rodermund, failed to show that the TDocs were publicly accessible to a POSITA before April 30, 2019, they are not printed publications. As a result, Petitioner's grounds 3 and 4, which rely on the TDocs, should be rejected.

2. Petitioner has not established that the TDocs are authentic and not hearsay.

Petitioner has not established that the TDocs are authentic and meet any hearsay exception. Specifically, Mr. Rodermund has no contemporary knowledge of 3GPP's procedures, the relevant working groups, or the TDocs during the relevant time period. *See Nokia*, IPR2021-00533, Paper 10 at 26 (discussing Patent Owner's arguments). Mr. Rodermund left ETSI in 2004, over fourteen years before the relevant dates here. Mr. Rodermund did not participate in any meetings related to TDocs and was not involved in their creation. *See Ex. 2017, Rodermund Depo.* at 203:16-19. He could not recall having seen the TDocs before beginning work on this IPR. *Id.* So, Mr. Rodermund had no contemporary knowledge of the TDocs or whether they qualify as a business record. And, as part of his work in this IPR, he never spoke to any individual involved with the creation of the TDocs or who was employed by 3GPP or ETSI during the relevant period about how the document system worked. *See Ex. 2017, Rodermund Depo.* at 18:2-7, 208:11-17, 214:19-215:5. So, he has no knowledge regarding the creation of TDocs or how the 3GPP FTP server and document system functioned in April 2019. As a result, Petitioner has no basis to authenticate the TDocs or to show that they meet business record exception to the hearsay rule. *See generally* Fed. R. Evid. 803(6); Fed. R. Evid. 901; *United States v. Foster*, 829 F. Supp. 2d 354, 364 (W.D. Va. 2011) (finding a

document to be hearsay because the sponsoring witness did not have sufficient contemporaneous knowledge to sponsor it). Thus, the TDocs should be excluded and not considered by the Board.

VII. CONCLUSION

For the reasons set forth above, one skilled in the art would not have found claims 1-18 of the '911 Patent anticipated nor would one skilled in the art have found these claims obvious. Therefore, Patent Owner respectfully requests that the Board deny the Petition in its entirety.

IPR2025-01189

U.S. Patent No. 11,368,911

Dated: March 17, 2026

/s/ Brian A. Carpenter

Brian A. Carpenter

Lead Counsel

USPTO Reg. No. 37,109

CERTIFICATE UNDER 37 C.F.R. SECTION 42.24

Hannibal certifies that the word count in this Response, as determined by the Microsoft Word word-processing system is 9,988 words. This Response is in compliance with the 14,000-word limit, excluding the parts exempted by 37 C.F.R. §§ 42.24(a)-(b).

CERTIFICATE OF SERVICE

I, Brian A. Carpenter, hereby certify that on the 17th day of March, 2026, the foregoing **PATENT OWNER'S RESPONSE** was served on the following by email:

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